

**IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION**

OLLIE GREENE, *et al.*,

Plaintiffs

v.

TOYOTA MOTOR CORPORATION, *et al.*,

Defendants.

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CAUSE NUMBER: 3:11-cv-0207-N

**BRIEF IN SUPPORT OF TOYOTA'S MOTION TO EXCLUDE
THE TESTIMONY OF PLAINTIFFS' EXPERT KEITH FRIEDMAN**

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TO THE HONORABLE COURT:

Defendants Toyota Motor Corporation, Toyota Motor Engineering & Manufacturing North America, Inc., and Toyota Motor Sales, U.S.A., Inc. (collectively "Toyota Defendants") file this Brief in Support of their Motion to Exclude the Testimony of Plaintiffs' Expert Keith Friedman as follows:

I. INTRODUCTION

Plaintiffs designated Keith Friedman ("Friedman") to offer opinions regarding the design of the 2010 Toyota 4Runner's structure and fuel system, but Friedman's testimony should be excluded at trial for a number of reasons. First, Friedman lacks the necessary background, training, education, and experience to render expert opinion testimony regarding the design of the 4Runner. Second, Friedman's opinion testimony is unreliable because it is not supported by relevant, reliable testing. Federal and Texas case law is clear that unless an engineering opinion is supported by valid testing, it is not reliable. Third, Friedman's opinions are not based on objective underlying data. Finally, there is too great of an "analytical gap" between the data Friedman has considered and his final opinions in this case. More specifically, Friedman opines as to various purported defects, but cannot state to a reasonable degree of engineering probability that any of these defects caused or contributed to the injuries and deaths in this case, or that his vaguely described safer alternative designs would have changed the outcome of the subject accident had they been implemented. Therefore, Friedman's testimony regarding the design of the 4Runner's structure and fuel system is unreliable and must be excluded at trial.

II. FACTUAL AND PROCEDURAL BACKGROUND

This case arises out of a high speed, multiple-vehicle accident that occurred on May 28, 2010 in Kaufman County, Texas. Plaintiffs' decedents (collectively the "Greene Family") were traveling in a 2010 4Runner that was struck from behind by a 2008 Volvo tractor driven by

Charles Moody. The force of the impact drove the 4Runner into the rear of a 2006 Corolla and then into the rear of the subject Strick Trailer. The Volvo tractor again impacted the rear and left side of the 4Runner, crushing it against and underneath the Strick trailer. Tragically, Lakeysa Greene, Wyndell Greene, II and Wesleigh Greene were killed at the scene by blunt force trauma and Wyndell Greene, Sr., died three months later. With respect to the Toyota Defendants, Plaintiffs allege strict products liability causes of action based on the design, manufacture, and marketing of the 4Runner. Specifically, Plaintiffs allege that the 4Runner was defective because its structure and fuel system did not properly protect the Greene Family during the subject accident, and ultimately caused their injuries and deaths.¹

To support their allegations against the Toyota Defendants, Plaintiffs designated Friedman to testify regarding the design of the structure and fuel system of the 4Runner. *See* Notice of Service of Plaintiffs' Rule 26(a)(2) Expert Disclosures, Doc. No. 244; *see also* Preliminary Crashworthiness and Fireworthiness Report Relating to the Toyota Defendants, attached herein as Exhibit A; Excerpts from the Deposition Transcript of Keith Friedman, attached herein as Exhibit B.

In his expert report, Friedman provided a laundry list of defect allegations relating to the 4Runner, including the structure, fuel system, airbag system, and restraint system. However, when asked under oath during his deposition what defect theories he intends to testify on at trial, Friedman stated that he intends to offer opinions regarding "the placement of the crush zone under the occupants and the placement of the tank in the crush zone," and that "the fuel tank doesn't incorporate technology to prevent leaks." Exhibit B, at 154:2-10; 156:6-13; App. 105, 106. Regarding crush zone in the 4Runner, Friedman claims that the primary area of energy

¹ Plaintiffs' Complaint also includes a host of other alleged defect claims, including allegations relating to the restraint system in the 4Runner. However none of these claims are supported by any of their experts.

absorption in a rear impact improperly occurs under the rear seat occupants, which causes the rear axle of the structure to rotate upwards into the occupant seating area and accelerates the rear occupants forward as rear deformation occurs. With regard to the location of the fuel tank within the crush zone, Friedman claims that the fuel tank does not meet the Toyota Defendants design approach because it is not located within the frame and is not placed where it will least likely be affected by a collision. Friedman believes that because the fuel tank is not properly located within the frame, it is exposed to the structure in a rear impact which can result in unnecessary compression on the fuel tank and portions of the 4Runner's frame severing fuel lines or hoses connected to the fuel tank, both of which can lead to a fuel leak. Finally, Friedman claims that when the fuel tank is exposed, there are not appropriate prevention mechanisms to prevent the fuel tank from leaking.

In addition to the defect allegations above, Friedman intends to testify at trial that "safer" alternative designs relating to his alleged structure and fuel system design defects would have prevented the injuries and deaths of the Greene Family. However, because Friedman has no testing to support these opinions or any alternative designs, because he does not rely on objective underlying data, and because there is an analytical gap between the information that he relies upon and his final opinions, his testimony must be excluded.

III. ARGUMENT

A. Only Expert Witnesses Who Are Actually Qualified in the Relevant Field Are Allowed to Offer Expert Opinion Testimony at Trial.

Friedman must not be allowed to offer opinions regarding the design of the 4Runner because he is not qualified to do so. Friedman is not an automotive design expert, and he is not an expert on the structure of vehicles, other than in the context of litigation consulting. The Fifth Circuit has held that while a trial court is afforded wide latitude in determining the admissibility

of expert's testimony, it should not allow an expert to testify if it finds that the witness is not qualified to testify on a particular field or a given subject. *Wilson v. Woods*, 163 F.3d 935, 936-937 (5th Cir. 1999). To decide whether a proffered expert is truly qualified, courts must examine the expert's academic and professional background and, when appropriate, the expert's hands-on experience with the product at issue. In *Wilson*, the trial court examined the qualifications of the plaintiff's accident reconstruction expert. Despite the proffered expert's bachelor's and master's degrees in mechanical engineering, as well as his teaching experience in mechanical and industrial engineering, the district court refused to qualify the witness, holding that an engineering degree by itself was insufficient to qualify the witness as an expert:

Here, we don't have simple physics questions. If we did, then anyone that has any background in physics and mathematics, which any engineering graduate of any university in the country would have, is capable looking at whatever tables the government publishes and thereby become an expert.

Id. at 938. Instead, the Fifth Circuit focused on "significant deficiencies in [the witness's] experience and professional training" and affirmed the trial court's exclusion of the proffered expert. *Id.* at 938.²

Texas case precedent is also instructive on this issue. A purported expert must be qualified to offer opinion testimony before he is permitted to testify at trial. Texas Rule of Evidence 702 states, "If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an

² See also *Tokio Marine & Fire Ins. Co. v. Groove Mfg. Co.*, 958 F.2d 1169, 1174 (1st Cir. 1992) (excluding purported crane expert who had some experience in crane accident investigation, but had no actual experience in the design or manufacture of cranes) ("[The expert's] opinion on whether or not the absence of a load moment indicator was a "defect" called, in essence, for meaningful cost benefit analysis. This required, in turn, considerable familiarity with the device itself; with how hydraulic cranes work and are operated; with crane design, manufacture and marketing; with applicable industry standards; and so on."); *Poulan v. Beaird-Poulan*, 483 F.Supp. 1256 (W.D. La. 1980) (excluding testimony of mechanical engineer regarding chainsaws because purported expert had only limited experience with chainsaws).

opinion or otherwise.” It has long been recognized that a person is not qualified merely because he holds a college degree or has knowledge in the general area of expertise at issue. For example, the Texas Supreme Court has specifically held that a person’s education and training as an engineer does not automatically qualify him to testify as an expert on all technical issues or in every products liability case. *Gammill v. Jack Williams Chevrolet, Inc.*, 972 S.W.2d 713, 719 (Tex. 1998).³ Rather, an expert must have a specific expertise and **“further show special knowledge as to the very question upon which he proposed to express his opinion.”** *Broders v. Heise*, 924 S.W.2d 148, 153 (Tex. 1996) (emphasis added); *see also Hutchins v. Humble Oil and Ref. Co.*, 161 S.W.2d 571 (Tex. Civ. App.—Galveston 1942).

In *Broders*, the Texas Supreme Court held that a trial court properly excluded the testimony of an emergency room doctor concerning a patient’s cause of death. *Id.* at 148. The court held the proffered expert was not qualified to testify on cause of death issues merely because he had a medical degree, and emphasized that a trial court must ensure **“those who purport to be experts truly have expertise concerning the actual subject about which they are offering an opinion.”** *Id.* at 151-152 (emphasis added). The Court went on to hold:

What is required is that the offering party establish that the expert has “knowledge, skill, experience, training, or education” regarding the **specific issue** before the court which would qualify the expert to give an opinion on **that particular subject**.

Id. at 153 (emphasis added).

In *Gammill*, an automotive products liability case, the Texas Supreme Court determined the trial court correctly excluded the plaintiff’s defect expert because he lacked expertise specifically related to the alleged defective components. 972 S.W.2d at 719. The plaintiff in

³ Relying on *Broders v. Heise*, the *Gammill* Court specifically stated that “[j]ust as not every physician is qualified to testify as an expert in every medical malpractice case, not every mechanical engineer is qualified to testify as an expert in every products liability case.”

Gammill claimed the accelerator pedal on her vehicle became caught in a wiring harness beneath the dashboard, which caused her to have an accident; she also claimed the restraint system on the vehicle was defective. *Id.* The plaintiff offered David Lowry as a liability expert to address the alleged defects in the vehicle's accelerator and restraint system. *Id.* at 717. Lowry had a Master's Degree in mechanical engineering with a significant background in testing and designing fighter planes and missiles, as well as some background in automotive repair. *Id.* Despite Lowry's engineering, testing, and automotive repair background, the trial court found he did not have any specialized expertise related to the design of automobile accelerators or restraint systems and excluded his testimony. *Id.* at 718-19. Specifically relying on its opinion in *Broders*, the Texas Supreme Court affirmed the trial court's exclusion of Lowry because he did not have any training or experience related to the specific defective component and specific defect allegations (i.e., the allegedly defective accelerator pedal and restraint system).

Here, Friedman does not have the necessary background, education, training, or experience in automotive design. Friedman has never been an automobile engineer, other than in the context of litigation consulting. He has no relevant industry experience and has never designed commercially produced vehicles. Friedman has also never designed fuel systems for mass produced passenger cars, light trucks or sport utility vehicles. Friedman's engineering degree does not qualify him to testify regarding the purported design defects in the 4Runner. Simply put, Friedman's background does not indicate that he has relevant background or experience regarding vehicle design. The case law is clear that "knowledge, skill, experience, training, or education regarding the **specific issue** before the court" is necessary to qualify an expert. *Broders*, 924 S.W.2d at 153 (emphasis added). Here, the specific issue on which Friedman purports to opine is a design defect and a safer alternative design for the 4Runner's

structure and fuel system, but with no relevant engineering knowledge or experience, Friedman is not qualified to offer these opinions.

Similarly, his litigation consulting work alone is insufficient to qualify him as an expert. Experience in litigation or as a “professional expert” does not give someone the requisite background to qualify as an actual expert. *See e.g., Thomas J. Klein, Inc. v. Lorilord*, 878 F.2d 791, 800 (4th Cir. 1989), *cert. denied*, 493 U.S. 1073 (1990) (“It would be absurd to conclude that one can become an expert simply by accumulating experience in testifying.”). Friedman's lack of background, training, education, and experience regarding automotive design renders him unqualified to provide expert opinion testimony in this case.

B. Friedman's Opinions Regarding the 4Runner's Structure and Fuel System Are Unreliable and Should be Excluded.

1. Standards of reliability for expert testimony.

Before he can offer expert opinion testimony at trial, the Court must determine whether Friedman's opinions are reliable. *Daubert v. Merrell Dow Pharms.*, 509 U.S. 579 (1993). Faced with an objection to a proffer of expert testimony, the Court must engage in a “preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid.” *Id.* at 592-93. Baseless, unreliable evidence is of no assistance to the trier of fact and is thus inadmissible. *See, e.g., Viterbo v. Dow Chem. Co.*, 826 F.2d 420, 421 (5th Cir. 1987) (“If an opinion is fundamentally unsupported, then it offers no expert assistance to the jury.”). A witness who has “little more than his credentials and a subjective opinion” cannot provide expert testimony. *Id.* at 421-22; *see also Rosen v. Ciba-Geigy Corp.*, 78 F.3d 316, 319 (7th Cir. 1996) (“An expert who supplies nothing but a bottom line supplies nothing of value to the judicial process.”). The reliability determination is made by examining whether Friedman arrived at his opinions by a reliable, scientific methodology similar to that utilized by persons outside the

context of litigation. *Kumho Tire Co. v. Carmichael*, 526 U.S. 137 (1999). Under this analysis, expert testimony is unreliable if it is not grounded “in the methods and procedures of science” and is no more than “subjective belief or unsupported speculation.” *Daubert*, 509 U.S. at 590. An expert’s bald assertions of validity are not enough. *See Daubert*, 509 U.S. at 590; *Viterbo*, 826 F.2d at 421. There must be objective, independent validation of the expert’s methodology. *See id.* In making this threshold reliability determination, the trial court may consider:

- 1) whether the theory has been reliably tested;
- 2) whether the theory has been generally accepted within the pertinent technical community;
- 3) whether the theory has been subjected to peer review; and
- 4) the known potential rate of error

Daubert, 509 U.S. at 593-94. The burden is on the proponent of the expert testimony to demonstrate the expert witness has adhered to the standards set forth in *Daubert*. *See Moore v. Ashland Chem., Inc.*, 151 F.3d 269, 276 (5th Cir. 1998).

2. Friedman has no testing to show that his supposedly "safer" alternative designs would have performed differently during the subject accident.

Friedman's opinions regarding alternative designs are unreliable because he has no testing to support them. Valid testing and research is critical to establishing the reliability of opinions within the context of product liability cases. *See Watkins v. Telsmith, Inc.*, 121 F.3d 984, 991-93 (5th Cir. 1997) (affirming the exclusion of an expert who had not tested or reviewed any testing of his proposed safer alternative design); *Tassin v. Sears, Roebuck and Co.*, 946 F. Supp. 1241, 1250 (M.D. La. 1996) (same); *Pride v. BIC Corp.*, 218 F.3d 566, 578 (6th Cir. 2000) (excluding opinion testimony where the experts failed “to test their hypotheses in a ... reliable manner”); *Berry v. Crown Equip. Corp.*, 108 F. Supp. 2d 743, 754 (E.D. Mich. 2000) (“[W]here, as here,

the proffered expert has performed no reliable testing of this theory, courts ... have routinely precluded the witness from offering an expert opinion”).⁴

Here, Friedman has not conducted any relevant, reliable testing to support his opinions that the 4Runner's structure and fuel system was defectively designed and that a different structure or fuel system design would have prevented the injuries and deaths of the Greene Family. Friedman states that there are two design approaches that would have better protected the rear seat occupants and prevented the fire. According to Friedman, either one of these alternative designs would have prevented the injuries and deaths of the Greene family. First, Friedman states that one of his design solutions changes the fuel tank location and design so that it is not in the crush zone in a rear impact and does not leak. Friedman claims that this would have prevented the fire. *See* Exhibit A, at 41; App. 41. Second, Friedman states that the Toyota Defendants could have changed the frame design and tank characteristics in the 4Runner so that the tank is better protected and the crush zone during rear impacts is moved away from the rear seat occupants. *Id.* Friedman claims this would protect the rear seat occupants better and would have prevented the fire. Moreover, Friedman fails to even understand that the expert designated by Plaintiffs on injury causation, Dr. Joseph Burton, testified that the rear occupants (as well as the front seat occupant, Mrs. Greene) were killed as a result of blunt force trauma when the 4Runner underrode the Strick trailer.

Because Friedman has conducted no valid testing to establish the validity and reliability of these alternative designs, his testimony must be excluded. During his deposition, Friedman explicitly states that he has conducted no physical crash testing to test his opinions regarding the

⁴ *See also Rosado v. C.J. Deters*, 5 F.3d 119, 124 (5th Cir. 1993) (holding an accident reconstruction expert was properly excluded where “he could not independently establish the necessary physical and mathematical bases for his opinion”); *Oddi v. Ford Motor Co.*, 234 F.3d 136, 158 (3d Cir. 2000) (“Since [the expert] conducted no tests...he used little, if any, methodology beyond his own intuition. There is nothing here to submit to peer review, and it is impossible to ascertain any rate of error for [his] assumptions...”).

structure and fuel systems of the 4Runner. *See* Exhibit B, at 95:13-17; App. 102 (Q: Have you done any physical crash testing in this case, sir? A: No. I looked at the crash tests that you did.). Thus, Friedman has conducted no physical crash testing to support his alternative designs relating to the placement of the crush zone under the rear occupants, the placement of the tank in the crush zone, and various technologies to prevent fuel tank leaks to establish such alternatives would have changed the outcome of this crash.

The only "testing" that Friedman purports to have conducted regarding these alternative designs consists of finite element modeling or virtual testing. However, this alleged testing is unreliable and inadmissible for a variety of reasons. First, Friedman should not be allowed to rely upon such "testing" because it was not properly disclosed to the Toyota Defendants, and was conducted, at least in part, after he authored his report. The Toyota Defendants have accordingly filed a pending motion to strike this "testing." *See* Brief in Support of Toyota Defendants' Motion to Exclude Untimely Disclosed File Materials and Data of Plaintiffs' Experts Keith Friedman and Rhodes Stephenson, Doc. No. 380, 381. In addition, during Friedman's deposition, counsel for Plaintiffs' indicated that the additional testing and simulation work done after November 20, 2013 was being prepared for an expert rebuttal report. Exhibit B, at 203:22—204:15; App. 111-12. However, the expert rebuttal report deadline in this case has passed, and Friedman did not submit any such rebuttal report. *See* Doc. No. 335. Therefore, any such testing or simulation work was either not properly disclosed or had not been performed at the time of Friedman's report and should be excluded.

Second, nowhere in Friedman's expert report does he state that he has conducted testing to support these alternative designs. During his deposition, Friedman was asked whether the "testing" and simulation work was disclosed in his expert report, or whether it was first being

disclosed at his deposition. Despite clear and direct questioning from Toyota's counsel, Friedman failed to specify any "testing" or simulation work that was properly disclosed in his November 20, 2013 report.

Q: And you are disclosing to us for the first time today that you conducted this testing and simulation work. Is that correct sir?

MR. PITTMAN: Objection, form.

A: I don't know. I think of it more as illustrations. They're not my opinion. They illustrate my opinions.

Q: Well, am I correct that you're disclosing to us for the first time today that you conducted this testing and simulation work?

MR. PITTMAN: Objection, form.

A: No. It's just sort of the background to my opinions. I mean, something was going on in parallel as opposed to something about disclosing.

Q: Show me where in your report by page number you indicated that you had conducted testing with override suspension or done finite element analysis of a Volvo into a 4Runner.

A: Well, in here is a -- this looks like an illustration of an FE frame, as you see on Page 38 and 39.

Q: I'm not looking for diagrams or pictures. I want you to point to me in this report where you disclosed that you had done testing on a trailer with override suspension or had done finite element analysis simulations of a Volvo into a 4Runner.

MR. PITTMAN: Objection, form.

Q: Are you going to be able to do that, sir? Or, if I understood you correctly, this was all the work that you conducted since November 20th, so by definition it wouldn't be in this report?

MR. PITTMAN: Objection, form.

A: Well, I think what I said is, you know, this shows an FE model in the report of the frame and the tanks. So the question of, is there some explicit statement about it? I think, as I said, we're still -- we were still waiting for information to -- to have the characterization of the Volvo and et cetera.

Q: I didn't see anywhere referenced in your report that was provided to us on November 20th that you had done any virtual testing. Can you point me to anywhere in your report where you say you had conducted virtual testing, sir?

MR. PITTMAN: Objection, form.

A: I don't know. I would have to go through the whole report. I think -- I think the underlying aspects of understanding an analysis utilized all of the engineering tools that are available to engineers.

Q: As we sit here right now, sir, you cannot point me to anywhere in your report that was produced to us on November 20th wherein you disclosed that you had done any virtual testing?

MR. PITTMAN: Objection, form.

A: I don't know.

See Exhibit B, at 61:3—62:17; 148:12-22; 149:20-25; App. 91-92, 103, 104.

The record is clear that Friedman was provided countless ample opportunities to identify the purported "testing" that he claims to have conducted and that was included in his report, but he could not do so. As a result, any additional testing that Friedman conducted has not been properly disclosed and does not rise to the level of formal, independently verifiable, scientific testing.

Whether an expert's theory or conclusion can be and has been tested has been described as the "most significant *Daubert* factor," and numerous cases have held that the failure to subject an expert's proffered opinion to scientific testing justifies exclusion. See, e.g., *Cummins v. Lyle Indus.*, 93 F.3d 362, 368 (7th Cir. 1996); *Brooks v. Outboard Marine Corp.*, 234 F.3d 89, 92 (2d Cir. 2000); *Garcia v. BRK Brands, Inc.*, 266 F. Supp. 2d 566, 574 (S.D. Tex. 2003). As the Seventh Circuit noted, even a "supremely qualified expert cannot waltz into the courtroom and render opinions unless those opinions are based upon some recognized scientific method." *Clark*

v. Takata Corp., 192 F.3d 750, 759 n.5 (7th Cir. 1999); *see also Rosado*, 5 F.3d at 124 (holding an accident reconstruction expert was properly excluded where “he could not independently establish the necessary physical and mathematical bases for his opinion”); *Garcia*, 266 F. Supp. 2d at 577 (holding experts were properly excluded where they “have not convincingly demonstrated, nor even sought to demonstrate, that their conclusions [were not] untested hypotheses”).

Without some sort of testing or other analysis, Friedman cannot possibly opine that the 4Runner's structure or fuel system was unreasonably dangerous and defective. Friedman cannot offer the jury or this Court a shred of empirical evidence that the 4Runner's structure or fuel system would have prevented the injuries and deaths of the Greene Family if the Toyota Defendants had implemented either one of Friedman's vaguely described alternative designs. His speculative opinions cannot be of assistance to the jury and must be excluded under *Daubert*.

3. Friedman's *ipse dixit* opinions should be excluded.

An expert's opinions must be supported by data; his bare opinion will not suffice. *Merrell Dow Pharms., Inc. v. Havner*, 953 S.W.2d 706, 712 (Tex. 1997); *Burroughs Welcome Co. v. Crye*, 907 S.W.2d 497, 499-500 (Tex. 1995); *Schaefer v. Tex. Employers' Ins. Ass'n*, 612 S.W.2d 199, 202-04 (Tex. 1980). “Experts cannot float their conclusions on cushions of air; they must rest those conclusions upon foundations built from reliable scientific explanation.” *Navarro v. Fuji Heavy Indus., Ltd.*, 925 F. Supp. 1323, 1328 (N.D. Ill. 1996), *aff'd*, 117 F.3d 1027 (7th Cir.), *cert. denied*, 1185 S.Ct. 600 (1997).

Courts have dismissed the *ipse dixit* rule: it is so simply because “an expert says it is so.” *See Viterbo*, 826 F.2d at 421; *Havner*, 953 S.W.2d at 712. Scientific knowledge requires more than guesswork, it must be grounded in a body of known facts or a body of ideas inferred from

such facts; otherwise, reliability is lost and the trier of fact is not assisted by what may be no more than speculation or subjective belief. *U.S. v. Posado*, 57 F.3d 428, 433 (5th Cir. 1995); *Claar v. Burlington N. R.R. Co.*, 29 F.3d 499 (9th Cir. 1994); *E.I. du Pont de Nemours and Co., Inc. v. Robinson*, 923 S.W.2d 549, 556 (Tex. 1995); *Onweuteaka v. Gill*, 908 S.W.2d 276, 283 (Tex. App.—Houston [1st Dist.] 1995, no writ).

Furthermore, “an expert who is trying to find a cause of something should carefully consider alternative causes. Failure to rule out other causes renders the expert’s opinion little more than speculation.” *Gammill*, 983 S.W.2d at 7 (citing *Robinson*, 923 S.W.2d at 559). An expert’s opinions must be made to a reasonable degree of scientific probability, or else they are no evidence at all. *Brookshire Bros., Inc. v. Smith*, 176 S.W.3d 30, 37 (Tex. App.—Houston [1st Dist.] 2004, pet. denied) (citing *Havner*, 953 S.W.2d at 712) (holding a reasonable degree of scientific certainty is “more probable than not.”). An expert’s opinion that a defendant’s alleged action is “consistent” with the injuries suffered by the plaintiff “does not demonstrate a causal connection,” and will not support a verdict. *Walgreen Co. v. Hieger*, 243 S.W.3d 183, 186 (Tex. App.—Houston [14th Dist.] 2007, pet. denied).

In this case, Friedman's opinions are not based on any objective underlying data. There is no physical evidence indicating where, when, or how the alleged fuel tank leak resulted in the fire. As previously discussed, Friedman conducted no testing to determine where, when or how the alleged fuel tank leak resulted in the fire. Consequently, his fuel system opinions are not based on any objective evidence. Similarly, Friedman has not identified any objective evidence supporting his opinions regarding intrusion into the rear seat occupant space. Friedman failed to consider other possible causes. For example, Friedman did not rule out that the fire prevention capabilities of a reasonably safe and well-designed fuel system simply cannot protect against fuel

fed fires in passenger vehicles that are rear ended by a loaded tractor trailer at highway speed, shoved into the rear of a passenger vehicle and eventually pushed under a commercial trailer before being struck a final time by the loaded tractor trailer. Likewise, he did not rule out that a "better" designed rear structure would not prevent any intrusion into the rear seat in such an accident.

4. Friedman's opinions suffer from an analytical gap and should be excluded.

Expert testimony is unreliable if the court concludes "there is simply too great an analytical gap between the data and the opinion proffered." *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997). In *General Electric Co. v. Joiner*, the United States Supreme Court held the district court did not abuse its discretion in excluding expert testimony on the basis that it was not supported by the underlying data on which the expert relied. *Id.* at 142. The data upon which an expert relies must be closely connected to his opinion:

[N]othing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence which is connected to existing data only by the *ipse dixit* of the expert. ***A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered.***

Id. (emphasis added).

To be relevant, the proposed expert testimony must be sufficiently tied to the facts of the case such that it will aid the jury in resolving a factual dispute. *Robinson*, 923 S.W.2d at 556 (quoting *U.S. v. Downing*, 753 F.2d 1224, 1242 (3rd Cir. 1985)); see also *Volkswagen of Am., Inc. v. Ramirez*, 159 S.W.3d 897, 905 (Tex. 2004) (applying the "analytical gap" test to scientific testimony and excluding expert testimony because there was no explanation of how the data relied upon supported the conclusion reached). In other words, when the underlying data on which the expert relies does not actually support the expert's opinions, those opinions are inherently unreliable.

Friedman's causation opinions should be excluded because there is simply too great of an analytical gap between the data relied upon by Friedman and his opinions. Friedman claims that the 4Runner was defectively designed because, among other things, the location and size of the fuel tank were located within the crush zone of the 4Runner's structure, and therefore prone to failure. He claims to "know" that there was a fuel tank leak as a result of the initial impact between the Volvo tractor and the 4Runner, that the leak led to the fire that caused or contributed to the injuries and death of the Greene Family, and that his proposed alternative designs would have prevented this from occurring. However, Friedman's conclusory defect and causation opinions are unreliable because he fails to identify how the fuel system breach occurred, when the fire began during the accident sequence, and whether or not his proposed alternative designs would have prevented the injuries and deaths of the Greene Family to a reasonable degree of engineering probability.

When repeatedly asked about the specific source of the fuel leak during his deposition, Friedman states that there are multiple possibilities, and that it is actually irrelevant which one of these possibilities actually occurred.

Q: And are you going to be able to identify, then, beyond that general scenario, a specific failure mechanism, whether it be the splitting of the tank seam between the upper and lower portions of the tank, whether it was the ejection of one or more of the components mounted on the top of the tank, including a fuel pump or sending unit, or whether it was a blowing off of one or more of the seven hoses or lines attached to the tank? Are you going to be able to do that, sir?

MR. PITTMAN: Objection, form.

A: I think those all have the same consequence.

TOYOTA COUNSEL: Object, nonresponsive.

Q: I want to know what your specific defect theory is with respect to the source of this fuel. Was it the -- the tank seam splitting, the

ejection of one of the components off the top of the tank, or was it blowing off of the hoses or lines?

MR. PITTMAN: Objection, form.

A: So the defect theory is a different question. The defect theory has to do with the placement of the tank in an exposed condition. So Toyota's design requires that they surround a tank with the frame, which they didn't do. And so the defect doesn't have to do with necessarily how it failed, but, rather, the fact that it was exposed in a way that allowed it to fail. And whether it failed one way or the other is sort of irrelevant. If it hadn't been in that condition to start with, it wouldn't have failed.

Q: So are --

A: That's my perspective. Now, Dr. Stephenson can have his perspective. But I think that's a fair synopsis.

Q: So it sounds to me as if what you're telling me is neither you nor Dr. Stephenson can delineate, among these possibilities that you have listed, what is the actual source of the gasoline leak; is that correct?

MR. PITTMAN: Objection, form.

A: Other than we know that it's from the fuel system and we know it's from a failure of the fuel system. There are a number of possibilities. But since it's -- so whether it came from one or the other -- we're not saying that the -- with regard to the fuel tank itself, the issues have to do with it's not having leak protection. So if a line separates not having the designs that were demonstrated much earlier to prevent leaks when those lines pull off, that would be an example. I'm not saying that a plastic tank is bad or something. It's the placement of the tank and the little prevention of leaks from the failure of lines that are issues.

Q: That's what I'm trying to understand from you, sir. I mean, I see in your report various hypotheses. What is it that you and Dr. Stephenson have concluded is what actually was violated in terms of fuel system integrity, which then ultimately led to the fire?

A: And as I said -- I've said several times now -- the Volvo -- the most likely scenario is when the Volvo impacted with the 4Runner, the fuel tank is highly distorted and it fails at that time. The vehicle is being driven down into the ground. We know that the tank is going to be on the ground. We know that components

failed and we know that the fuel tank is in the crush zone of the vehicle. So the most likely time for the fuel system to fail is in that impact. Then the question of, okay, there are sparks to ignite the fuel that's failed -- I mean, the fuel that comes from the failed system, and that could occur from that point to the Strick trailer, obviously. And the most likely situation is, you have more sparks probably in the underride of the Strick trailer. But there are also sparks along the way, so there are certainly possibilities for other things to occur in terms of could there be a small fire that starts before then.

Q: All right. So was the fuel, the initial fuel leakage, caused by a splitting of the tank seam between the upper and lower portions of the tank?

A: Well, I think there are several possibilities about what failed.

Q: All right. So am I correct in understanding that as to identifying the specific source of the gasoline leak, neither you nor Dr. Stephenson are able to do that, but you can, as I think you have told me now, still identify the overall mechanism by which you believe these possible gasoline leak sources would have occurred?

A: Yes.

See Exhibit B, at 79:4—81:7; 76:12—77:16; 82:19—83:1; App. 97-99, 94-95, 100-01. The record is clear that Friedman is unable to identify the source of the alleged fuel leak in the 4Runner to a reasonable degree of engineering probability.

In addition, Friedman cannot identify when the alleged fuel leak occurred. *See id.*, at 73:2-11; App. 93 (the "most likely scenario" is that the fuel tank system failed during the initial impact with the Volvo tractor). Finally, and most importantly, Friedman cannot state that his alternative designs would have prevented the injuries and deaths of the Greene Family.

Q: All right. So if I understand what you're telling me, at this point you cannot say with a reasonable degree of engineering probability that, in fact, the axle displacement that occurred in this accident actually did sever the fuel lines or hoses or pull those hoses and lines from the tank, but what you can say is, if that did

occur, then the system should have had the countermeasures to prevent the fuel tank from leaking. Did I get that correctly?

MR. PITTMAN: Objection, form.

A: Yes.

Q: But you cannot say to a reasonable degree of engineering probability that if this fuel tank had been equipped with this technology to prevent fuel leaks that the outcome in this case would be any different than it was because we don't know whether or not the fuel system line was even detached. Isn't that right?

MR. PITTMAN: Objection, form.

A: I think the -- as I've said, a good fuel system design and fire protection design requires that you deal with the situation that's foreseeable to know that the fuel lines or lines to the fuel tank are going to separate. And it behooves you to incorporate technologies to prevent the leakage when those lines separate.

See Exhibit B, at 159:23—160:8; 165:21—166:10; App. 107-08, 109-10. Instead of specifically identifying how one of his proposed alternative designs would have prevented the injuries and deaths of the Greene Family, he simply opines that a "good fuel system design and fire protection design" should have been incorporated. His opinions fail to provide the evidentiary support Plaintiffs must have to establish the requisite elements of their cause of action that the design of the fuel system was unreasonably dangerous and that such alleged defects were a producing cause of the injuries and deaths of the Greene Family.

Friedman's complete failure to identify how any one of his proposed alternative designs would have prevented the injuries and death of the Greene Family speaks directly to the speculative and conclusory nature of his opinions. Because Friedman cannot opine to a reasonable degree of scientific probability that any of his proposed alternative designs would have

made a difference, his opinions are unreliable and suffer from an analytical gap—the premises do not support the conclusion—and Friedman's opinions should therefore be excluded.

IV. CONCLUSION

WHEREFORE, PREMISES CONSIDERED, Defendants Toyota Motor Corporation, Toyota Motor Engineering & Manufacturing North America, Inc., and Toyota Motor Sales, U.S.A., Inc. respectfully request that their Motion to Exclude the Testimony of Plaintiffs' Expert Keith Friedman be granted in its entirety; that Friedman not be allowed to offer any testimony at the trial of this matter regarding the aforementioned topics; and for such further relief, both at law or in equity, to which Toyota may show itself to be justly entitled.

Respectfully submitted,

/s/ Kurt C. Kern

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing document has been forwarded to all known counsel of record in this cause in accordance with the Federal Rules of Civil Procedure on this 17th day of March, 2014.

/s/ Jude T. Hickland